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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,029	07/21/2005	Emmanuel Legrand	047578/294906	9192
826	7590	05/24/2007	EXAMINER	
ALSTON & BIRD LLP BANK OF AMERICA PLAZA 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NC 28280-4000			PAYER, HWEI SIU CHOU	
ART UNIT		PAPER NUMBER		
3724				
MAIL DATE		DELIVERY MODE		
05/24/2007		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/543,029	LEGRAND, EMMANUEL
<b>Examiner</b>	<b>Art Unit</b>	
Hwei-Siu C. Payer	3724	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1)  Responsive to communication(s) filed on 12 March 2007.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

- 4)  Claim(s) 1-24 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1,2,4-14 and 16-24 is/are rejected.  
7)  Claim(s) 3 and 15 is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9)  The specification is objected to by the Examiner. .

10)  The drawing(s) filed on 21 July 2005 is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_

5)  Notice of Informal Patent Application

6)  Other: \_\_\_\_\_

## **Detailed Action**

The amendment filed on 3-12-2007 has been entered. However, the amended paragraph in lines 4-22 of page 11 is not found. The correct lines should be 22-26 of page 11.

Upon further consideration, the allowable subject matter of claims 2 and 5 has been withdrawn. Any inconvenience to the Applicant is regretted.

## **Drawing Objection**

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the inner edge (cited in claims 1 and 14 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### **Objection to the Specification**

The disclosure is objected to because of the following informalities:

(1) On page 11, line 22, "in the light of" should read --in light of--.

Appropriate correction is required.

### **Claims Objection**

Claims 14-24 are objected to because of the following informalities: In claim 14, line 5, "(A)" should read --(112)--.

Appropriate correction is required.

### **Claims Rejection - 35 U.S.C. 102(b)**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, 6-10 and 13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Rouse (U.S. Patent No. 4,756,146).

### **Claims Rejection - 35 U.S.C. 103(a)**

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 5, 14 and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rouse (U.S. Patent No. 4,756,146).

Rouse shows the claimed invention except the passageway (14/16) is generally semicircular (see column 4, lines 54-57) rather than rectilinear.

However, the claimed shape of the passageway is not patentably distinct over Rouse, because the shape, whether semicircular or rectilinear, depends more upon the cutter string that is associated with the passageway than on any inventive concept.

As to the radius of curvature of the curved portion, as evidenced by applicant's claims 4 and 5, it can be either constant or variable, and it appears there is no criticality. Therefore, to have the curved portion present a radius of curvature that is variable as desired would have been obvious to one skilled in the art.

3. Claims 11, 12, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rouse (U.S. Patent No. 4,756,146) in view of Morabit et al. (U.S. Patent No. 5,761,816).

Rouse as set forth shows the claimed invention except it is not clear whether or not the cross-section of the cutter string (2) is polygonal.

However, cutter strings having a polygonal cross-section are well known in the art as evidenced by Morabit et al.

Therefore, it would have been obvious to one skilled in the art at the time this invention was made to select a well-known cross-sectional shape such as "polygonal" for Rouse's cutting string.

Regarding claims 12 and 24, it is noted Rouse's passageway (14/16) is about 0.170 inches (i.e. 4.318 mm, see column 3, lines 58-61) which is capable of receiving a cutting string having a width greater than about 3 mm as claimed.

### **Indication of Allowable Subject Matter**

Claims 3 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 3 and 15 contain allowable subject matter because none of the prior art of record taken alone or in combination thereof shows or fairly suggests the claimed subject matter. Having the radius of curvature greater than the claimed given distance

reduces the fatigue of the strand of the cutter string (see page 7, lines 29 to line 9 of page 8).

### **Remarks**

Applicant argues, at page 11 of the amendment, the cutting lines (2) of Rouse '146 extending radially from the axis of rotation of the cutting head, which axis coincides with the center 9 of the body of the head, and the Rouse patent does not disclose a cutting string extending offset from an axis of rotation of a cutting head. Examiner disagrees. As shown in Fig.4 of Rouse, the cutting string (2) clearly does not extend radially from the axis of rotation of the cutting head as Applicant alleged, rather that it extends "offset" from an axis of rotation (9) of the cutting head as claimed.

### **Point of Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hwei-Siu C. Payer whose telephone number is 571-272-4511. The examiner can normally be reached on Monday through Friday, 7:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on 571-272-4502. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for official communications and 571-273-4511 for proposed amendments.

Application/Control Number: 10/543,029  
Art Unit: 3724

Page 7

*H-S Payer*

H Payer  
May 16, 2007

*H-S Payer*  
Primary Examiner